VINO-1500SSW
VINO-2500SSW

Installer's Instruction

⚠ WARNING

Always check wiring harness connections before initiating any test procedures.

Disconnect electric power from the appliance before performing any maintenance or repairs.

Voltage checks should be made by inserting meter probes beside the wires in the connector blocks with the electric power source on and the connector block plugged in.

Resistance checks should be made on components with the electric power off and the connector block disconnected.

Federal law requires that WINE-MATE split cooling systems be installed by an EPA certified refrigeration technician.

WINE-MATE split system is shipped as components and is ready for use only after a certified refrigeration technician has properly installed, charged and tested the system. Proper installation is critical. Vinotemp can only warrant the quality of the components. The installation and proper operation of the system must be warranted by the installer. Installation of the system must be done in accordance with all state and local building codes.
The condensing unit and evaporator unit are connected by a liquid line and an insulated suction line that are supplied by the installer. These lines must be properly sized for the distance between the two units. After the units and the lines are installed, the system must be pressure tested. If no leaks are found, evacuate and charge system with R134A. Refrigerant amount will vary depending on the length of line set.

1. **Condensing Unit**

- Place the condensing units WM-150SCU and 250SCU in a properly ventilated location. If it is not, heat exhausted by the condensing unit will build up and the cooling system will not operate properly.
- Condensing unit shall be elevated to avoid possible flooding and shaded from direct sun. It shall not be exposed to temperatures higher than 110 °F or lower than 45 °F (optional low ambient kit for 20 °F).
- Leave minimum 5 feet clearance for the exhaust side and leave minimum 1 foot clearance for the fresh air intake side.

2. **Evaporator Unit**

- The WM-15SFCW and 25SFCW evaporator units shall be installed for wall mount with the air supply on the top and air return on the bottom.
- Supply and return air flow from the evaporator unit shall be unobstructed for at least 1 foot.
- There is a gravity drain line and the unit shall be installed level or with a slight angle toward the drain connection. If rise-up is needed, a condensation pump must be used.

3. Air Sensor

- The air sensor can be located in the wine room or the return air area, but not the supply air area.

4. Refrigeration Piping and Charging

NOTES: ALWAYS USE THE SUPERHEAT AND SUBCOOLING, PRESSURE READINGS TO CHARGE REFRIGERANT PROPERLY, THE LISTED CHARGES ARE FOR REFERENCE ONLY.

- The installation order starts from condensing unit (including the receiver, discharge valve), liquid line filter-drier, moisture-liquid indicator/sight glass, liquid line, to evaporator unit (including liquid line connection, solenoid valve, expansion valve, and suction line connection), returning to insulated suction line, suction valve and then condensing unit.
- The subcooling at the condensing unit shall be around 10°F. The charge may be complete when there are no more bubbles forming in the sight glass.
- The evaporator's constant pressure expansion valve is set around 38-40°F at factory. This pressure setting gives a dew point to maintain the humidity for storing wine.
- The superheat at the evaporator unit shall be around 9-18°F under low and high load at 75°F ambient temperature.
- If the superheat is high, check the subcooling first to know if the refrigerant charge is sufficient. If the charge is not sufficient, add more refrigerant. If the charge is good, then increase the evaporator suction pressure by turning the hex nut (5/16") clockwise.
- If the superheat is low, then decrease the evaporator suction pressure by turning the hex nut (5/16") counter-clockwise.
- Low side pressure: around 33-35 psig
- High side pressure: 130-150 psig at 75 -90 °F ambient temperatures

The line sizes and refrigerant charges are listed as follows.

MODEL	REFRIGERATION LINES	LIQUID LINE	SUCTION LINE	DRAIN LINE	CHARGE
VINO-1500SSW	<= 50 FT	1/4" OD	3/8" OD	1/2" OD	R134a/ 15 OZ

VINO-2500SSW	<= 50 FT	1/4" OD	3/8” OD	1/2” OD	R134a/ 20 OZ

NOTES:

1) **THE VALVE CONNECTION SIZES OF CONDENSING UNIT AND THE LINE CONNECTION SIZES OF EVAPORATOR UNIT ARE NOT NECESSARY THE SAME AS THE ABOVE SPECIFIED LINE SIZES.**
2) **IF THE CONDENSING UNIT IS INSTALLED ABOVE THE EVAPORATOR UNIT, USE THE SUCTION LINE ONE LISTED SIZE SMALLER.**

5. Pressure, Superheat and Subcooling Readings

NOTES: THE VALVES MUST BE IN THE MIDDLE POSITIONS TO READ PROPERLY.

Complaint	Possible Causes
a. High suction pressure and low head pressure	a. Compressor may be bad
b. High suction pressure and low head pressure Low superheat and low subcooling	b. Expansion valve opened, too much oil
c. High suction pressure and high head pressure Low superheat and high subcooling	c. Overcharge
d. High to normal suction pressure and high head pressure Low subcooling	d. Non-condensable gas
e. High suction pressure and high head pressure Low subcooling	e. Air restricted, dirty condenser, bad condenser fans
f. High suction pressure and high head pressure High superheat	f. High room temperature, high evaporator load
g. Low suction pressure and low head pressure High superheat and low subcooling	g. Undercharge
h. Low suction pressure and low to normal head pressure High superheat and high subcooling	h. Liquid line restricted after receiver, solenoid valve restricted
i. Low suction pressure and low head pressure Low subcooling	i. Suction line restricted
j. Low suction pressure and low head pressure Low superheat and low subcooling	j. Air restricted at evaporator, evaporator iced
k. Low suction pressure and low to normal head pressure High superheat and normal to high subcooling	k. Evaporator restricted
l. Low suction pressure and normal head pressure High superheat and normal subcooling	l. Expansion valve restricted
m. Low suction pressure and high head pressure High superheat and high subcooling	m. Both evaporator and condenser restricted
n. Low suction pressure and high head pressure High superheat and high subcooling	n. Liquid line restricted before receiver
o. low to normal suction pressure and high head pressure High to normal superheat and high subcooling	o. Condenser restricted

6. Valve Operation

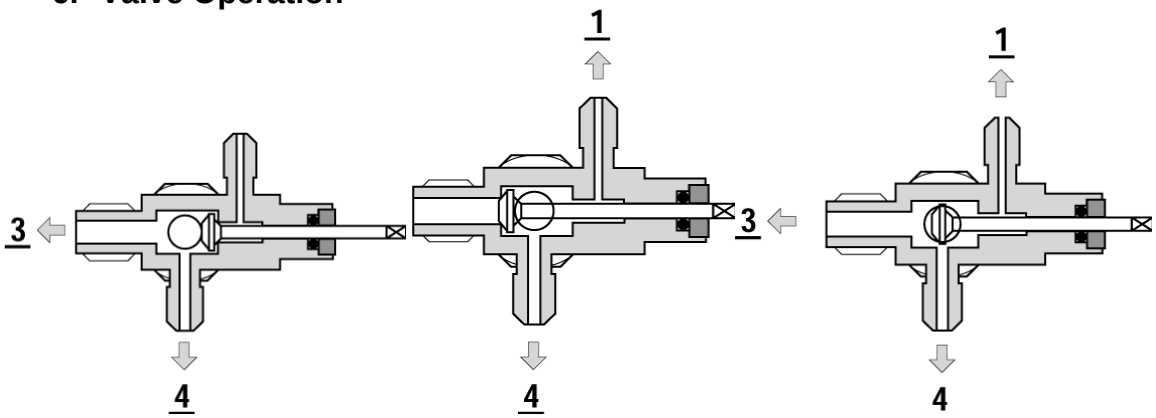

Fig. 2.1 Valve Operation

Back Position: Process and manometer port closed for normal operation
Front Position: Main connection to liquid or suction line closed
Middle Position: All ports open for vacuum, charge and measurement

7. Electrical Wiring

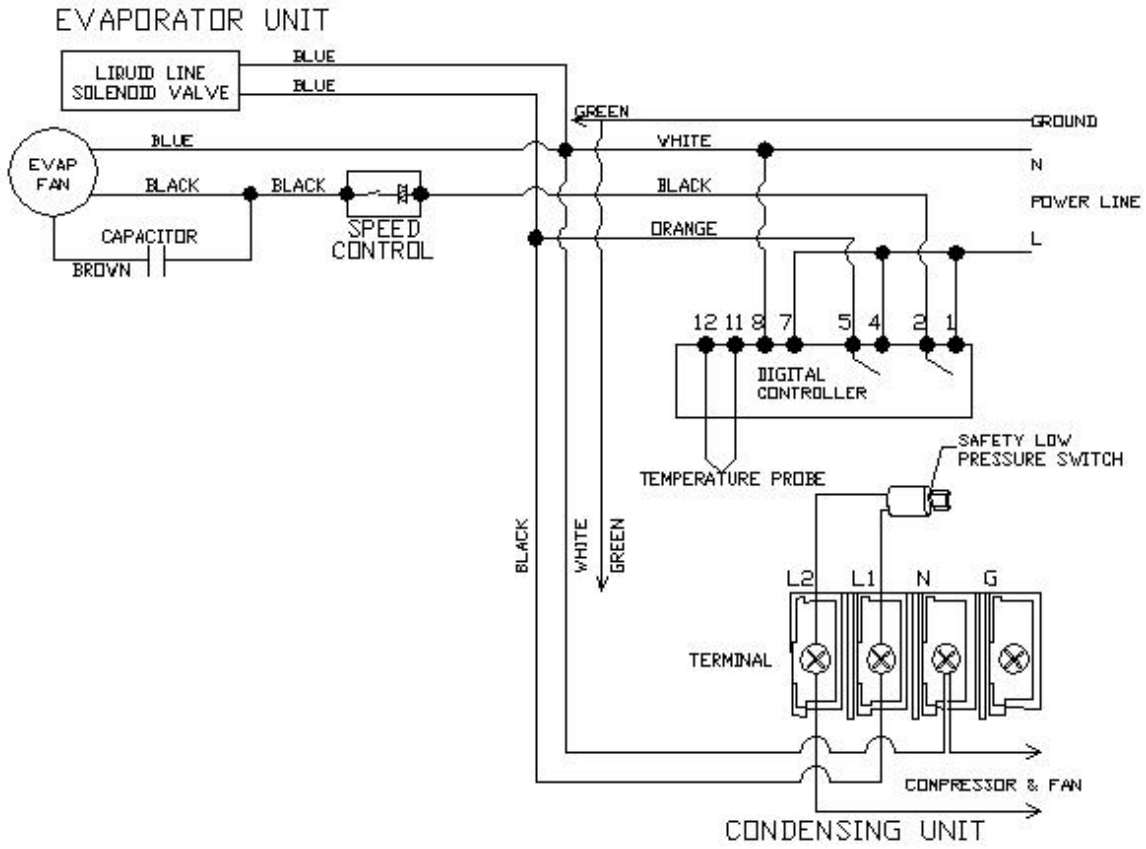

Fig. 2.2 VINO1500-2500SSW Wiring Diagram (DIGITAL CONTROLLER)

8. Use of the adjustable low pressure control (if applicable)

Cut out = 5 psig; Cut in = 25 psig; Differential = 20 psig
It may need to adjust the setting in the field to get the right cycle time.

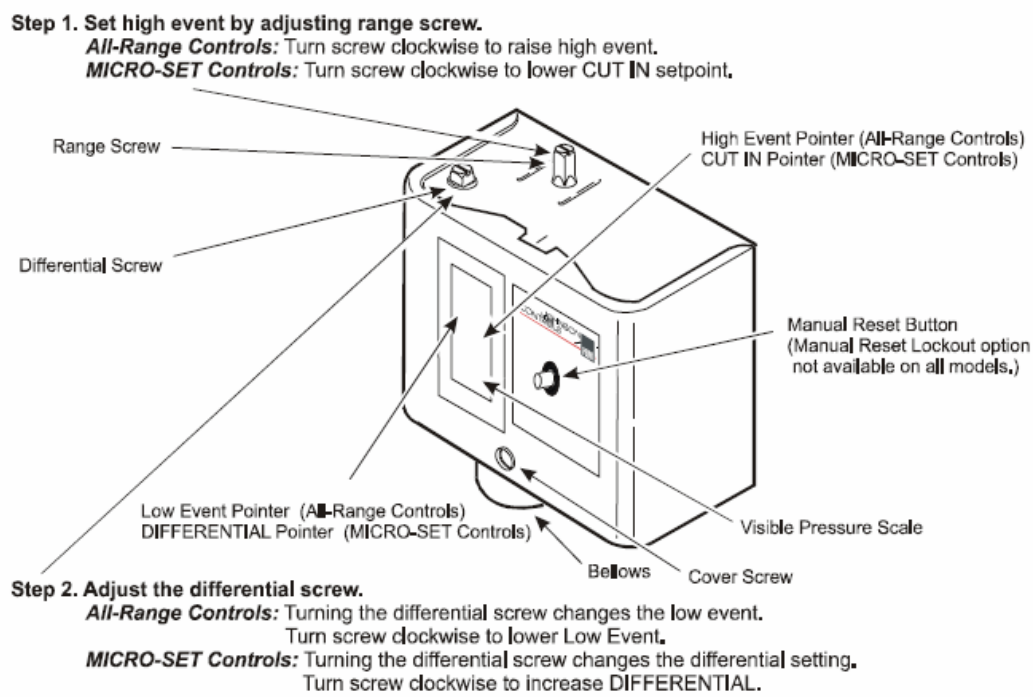
Step 1. Set high event by adjusting range screw.
All-Range Controls: Turn screw clockwise to raise high event.
MICRO-SET Controls: Turn screw clockwise to lower CUT IN setpoint.
Range Screw
High Event Pointer (All-Range Controls)
CUT IN Pointer (MICRO-SET Controls)
Differential Screw
Manual Reset Button
(Manual Reset Lockout option
not available on all models.)
Low Event Pointer (All-Range Controls)
DIFFERENTIAL Pointer (MICRO-SET Controls)
Visible Pressure Scale
Bellows
Cover Screw
Step 2. Adjust the differential screw.
All-Range Controls: Turning the differential screw changes the low event.
Turn screw clockwise to lower Low Event.
MICRO-SET Controls: Turning the differential screw changes the differential setting.
Turn screw clockwise to increase DIFFERENTIAL.

Fig. 2.3 Adjustable Pressure Control

9. Condensing Unit Troubleshooting

Unit not running	
a. Incorrect power supply	a. Check for proper voltage
b. Incorrect or loose wirings	b. Check all wirings and connections
c. Failed components	c. Check start relay, start capacitor, overload protector, compressor.
d. Liquid refrigerant in the compressor	d. Call service for OEM information
e. Low pressure switch shutting down the system	e. Check for system restriction or low refrigerant